Reviewer’s report

Title: The influence of geographic and climate factors on the timing of dengue epidemics in Peru, 1994-2008

Version: 2 Date: 10 March 2011

Reviewer: Sally Blower

Reviewer’s report:

This is a very interesting manuscript that is well worth publishing. However I believe that the authors have not completely answered the points raised by the reviewers and that these need to be addressed.

I will first address the two questions raised by the BMC editorial team:

1. Whether the authors are correct in their assertion that it is generally acceptable to use ‘probable’ cases of dengue fever as well as definite cases?

I believe that the authors are correct in their assertion as they are using definitions that are based on guidelines that have been set by the World Health Organization.

2. Whether the statistics the authors have chosen are correct and appropriate? Given that Referee 2 thought regression analysis was needed rather than simple correlation and the authors do not really answer this point.

I believe that the reviewer is correct that multivariate regression analysis would be more appropriate than simple correlation analysis in order to adjust for confounders. Therefore I recommend that the authors replace their correlation analysis with multivariate regression analysis.

I have some additional points that the Reviewers have raised that the authors should address:

1. To clarify & simplify the manuscript I would suggest that the authors move some of the Figures in the Appendix into the main text (e.g. S1 and some of the S2-S6) and certain of the more complex Figures in the main text into the Appendix. Currently seven multi-part complex Figures are included in an article that is fairly concise so the Figures “overwhelm” the text. I also suggest that the authors provide a short description of wavelet analysis in the main text (this is fairly easy), and a longer description in the Appendix, so that the reader has a greater understanding of the results that are displayed in the Figures.

2. I agree with the Reviewer that the authors do not show that dengue is frequently imported into coastal regions through infective sparks from endemic areas. If the authors want to make this statement they should make clear that it is a hypothesis that needs to be tested. They may want to consider including some alternative hypothesis in the discussion section.